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EXAMINER	
MADDEN, GREGORY VINCENT	

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2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,888	STEINBERG ET AL.	
	Examiner	Art Unit	
	Gregory V. Madden	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12,13,15,17-19,21-23,25-34,36,37,39,41-43 and 45-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12,13,15,17-19,21-23,25-34,36,37,39,41-43 and 45-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-10, 12-13, 15, 17-19, 21-23, 25-34, 36-37, 39-43, and 45-47 have been considered but are moot in view of the new ground(s) of rejection.

First, regarding claim 1, the Applicant has amended the claim to include the following limitation: "(c) wherein said performing said auto focus on said plurality of groups being done by calculating a weighted average on the individual objects of said groups, and

(d) wherein identifying of face pixels is automatically performed by an image processing apparatus which receives a relative value as to an estimated importance of detected face regions, and

(e) wherein the estimated importance of said detected face regions is based on at least one parameter including size of said faces, location of said faces within said captured image, or relative exposure of said faces, or combinations thereof." Applicant argues that the Ray reference (U.S. Pat. 6,940,545) only teaches that a focus position is set at one of the largest face or at some center of density in the image (see Col. 7, Lines 40-44), as opposed to the amended claim limitation of using a weighted average and an estimated importance of detected regions, which is based on size of faces, locations of faces within an image, and/or relative exposure of faces (See Remarks Pg. 15). However, the Examiner respectfully disagrees that Ray et al. does not teach the amended limitations of claim 1. In the face detection algorithm set forth by Ray in Col. 11, Line 7 – Col. 14, Line 11, Ray teaches that a weighted average on objects of groups of pixels is calculated (specifically shown Col. 14, Lines 1-11), and as Ray teaches that auto focusing is performed with the use of such a face detection algorithm (taught in Col. 7, Lines 23-44) the Examiner believes that the Ray reference does teach that the performing of auto focus on the plurality of groups of pixels is done by calculating a weighted average on the individual objects of the groups of pixels. Further, the Ray reference teaches that the identifying of face pixels is automatically performed

by an image processing apparatus (CPU 30) which receives a relative value as to an estimated importance of the detected regions (referred to as the Component S, as is set forth in Col. 14, Line 12 – Col. 15, Line 6), and Ray also discloses that the estimated importance of the detected regions comprises at least one parameter including size of faces (e.g. the largest face, as set forth in Col. 7, Lines 42-44) and the location of faces within the captured image (as taught in Col. 7, Lines 40-42). For the reasons stated above, the Examiner believes that the Ray et al. reference still teaches the claimed limitations of Applicant's amended claim 1, and thus the rejection to claim 1, is maintained, as will be set forth below. All similarly amended claims remain rejected for the reasons shown above, as well.

Next, considering amended claims 17 and 21, Applicant has amended the claims to include the limitation of "wherein the one or more parameters of pixels of the groups of pixels comprising a location of the face within the digitally-detected image". Applicant contends that the Ray reference does not disclose automatically adjusting the face locations from an initial location to a desired location within the digital image (See Remarks, Pgs. 15-16). However, the Examiner respectfully disagrees. The Examiner believes that Ray does teach that the face locations are automatically adjusted from an initial location to a desired location (i.e. the face detection algorithm detects all faces, but only uses the largest face as the desired location wherein to perform auto focus, as taught in Col. 7, Lines 23-44). Further, regardless of whether or not the Ray reference teaches the amended claims, the Examiner notes that Para. [0105] of the Sannoh reference (U.S. Pub. 2003/0071908) also teaches that the face locations detected (by CPU 115a) are automatically adjusted from an initial location based on comparing the initial location with a desired location (e.g. the center area). Even so, the Examiner still believes that the Ray reference alone teaches the amended limitations to claims 17 and 21, and therefore the claims remain rejected, as will be set forth below.

Regarding claims 5-10 and 29-34, the Applicant argues that the Sannoh reference, in combination with the Ray reference, fails to teach the manual removal of one or more groups of pixels corresponding

to an image of a face. However, the Examiner respectfully disagrees. Noting Para. [0107], Sannoh teaches that the user chooses, via operation section 108, a single ranging area among face-recognized positions, therefore inherently removing the other group of pixels as a detected face from which to perform setting adjustments (see also Fig. 6C). For the above reason, the Examiner believes that that Sannoh does sufficiently teach the manual removal of one or more groups of pixels corresponding to an image of a face, and thus the rejection of claims 5-10 and 29-34 is maintained. Similarly, the Examiner believes that such manual removal of one or more groups of pixels corresponding to an image of a face, as taught by Sannoh in Paras. [0105-0108], also teaches the manual removal of a false indication of a face, as the user manually chooses the ranging area that they desire from among several possible detected faces, some of which may be false indications of a face. For this reason, the rejection of claims 6 and 30 is also maintained.

Finally, the Examiner notes that the Applicant has amended claims 2, 7, and 31. Thus, the previous objection to these claims is hereby withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 12, 13, 15, 17-19, 21-23, 25-27, 36-37, 39, 41-43, and 45-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Ray et al. (U.S. Pat. 6,940,545).

First, considering **claim 1**, the Ray reference teaches a method within a digital acquisition device (camera 10) with an adjustable optical system (optical section 21) having an auto focusing mechanism, the method for perfecting the auto focus mechanism of the adjustable optical system as part of an image capture process using face detection in the image capture process to achieve desired image acquisition parameters comprising identifying a plurality of groups of pixels that correspond to an image of a face (when face detection is performed) within a digitally-captured image (framing image), and determining corresponding image attributes of the group of pixels, and perfecting the auto focus by performing auto focus on the plurality of groups of pixels that correspond to the image of the face. Further, Ray teaches that the performing of the auto focus on the plurality of groups is done by calculating a weighted average on the individual objects of the groups (specifically shown Col. 14, Lines 1-11). Ray also teaches that the identifying of face pixels is automatically performed by an image processing apparatus (CPU 30) which receives a relative value as to an estimated importance of the detected regions (referred to as the Component S, as is set forth in Col. 14, Line 12 – Col. 15, Line 6), and Ray also discloses that the estimated importance of the detected regions comprises at least one parameter including size of faces (e.g. the largest face, as set forth in Col. 7, Lines 42-44) and the location of faces within the captured image (as taught in Col. 7, Lines 40-42). Please also refer to Figs.1-3, Col. 4, Lines 15-66, Col. 6, Line 57 – Col. 7, Line 44, and Col. 11, Line 7 – Col. 14, Line 11.

In regard to **claim 2**, the limitations of claim 1 are set forth above, and the Ray reference further discloses that the method further comprises initially performing auto focus on the entire image capture (in image capture during framing mode), as taught in Col. 6, Line 57 – Col. 7, Line 22.

As for **claim 3**, again the limitations of claim 1 are taught above, and Ray teaches that the method for auto focusing the lens and the automatic adjusting automatically adjusts one or more properties of the adjustable optical system (optical section 21), as taught in Col. 7, Lines 36-44.

Considering **claim 12**, while Ray teaches the limitations of claim 1 above, Col. 7, Lines 58-62, and Col. 11, Lines 8-67 of the Ray reference teaches that the identifying of face pixels is automatically performed by the CPU 30 based on relative value as to a detection assurance (referred to as the "Component W").

As for **claim 13**, the limitations of claim 12 are taught above, and the Ray reference again teaches in Col. 7, Lines 58-62, and Col. 11, Lines 8-67 that the weighted average calculation is done based on the relative values as to the detection assurance.

Regarding **claim 15**, the limitations of claim 1 are taught above, and Ray teaches that the weighted average is calculated based on the relative values as to the estimated importance, as taught in Col. 14, Line 12 – Col. 15, Line 6.

Next, in regard to **claim 17**, as is similarly shown above with respect to claim 1, the Ray reference teaches a digital camera (10) having a lens system (21), with a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, the method comprising the steps of identifying a group of pixels that correspond to a face within the digitally-detected image (via face detection from frame image), determining initial values of one or more parameters of pixels of the group of pixels, and automatically adjusting values of one or more parameters of the pixels of the group of pixels based upon a comparison of the initial parameter with the desired parameter, as is taught in Figs.1-3, Col. 4, Lines 15-66, and Col. 6, Line 57 – Col. 7, Line 44. Further, Ray teaches that the face locations are automatically adjusted from an initial location to a desired location (i.e. the face detection algorithm detects all faces, but only uses the largest face as the desired location wherein to perform auto focus, as taught in Col. 7, Lines 23-44), and thus teaches that the one or more parameters of pixels comprise a location of the face within the digitally-detected image.

As for **claim 18**, the limitations of claim 17 are taught above, and Ray further discloses that the initial parameter and the desired parameter comprise an initial focus and a desired focus, respectively, which is taught in Col. 7, Lines 36-44.

Regarding **claim 19**, the limitations of claim 18 are set forth above, and the Ray reference teaches again in Col. 7, Lines 36-44 that in the method for auto focusing the lens, the automatic adjusting step automatically adjusts one or more properties of the lens system (21).

Next, in regard to **claim 21**, as is similarly shown above with respect to claim 17, the Ray reference teaches a digital camera (10) having a lens system (21), with a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, the method comprising the steps of identifying a group of pixels that correspond to a face within the digitally-detected image (via face detection from frame image), determining initial values of one or more parameters of pixels of the group of pixels, and automatically providing an option for adjusting values of one or more parameters of the pixels of the group of pixels based upon a comparison of the initial parameter with the desired parameter, as is taught in Figs.1-3, Col. 4, Lines 15-66, and Col. 6, Line 57 – Col. 7, Line 44. Further, Ray teaches that the face locations are automatically adjusted from an initial location to a desired location (i.e. the face detection algorithm detects all faces, but only uses the largest face as the desired location wherein to perform auto focus, as taught in Col. 7, Lines 23-44), and thus teaches that the one or more parameters of pixels comprise a location of the face within the digitally-detected image.

As for **claim 22**, the limitations of claim 21 are taught above, and Ray further discloses that the initial parameter and the desired parameter comprise an initial focus and a desired focus, respectively, which is taught in Col. 7, Lines 36-44.

Regarding **claim 23**, the limitations of claim 22 are set forth above, and the Ray reference teaches again in Col. 7, Lines 36-44 that in the method for auto focusing the lens, the automatic adjusting for automatically adjusts one or more properties of the lens system (21).

Next, in regard to **claim 25**, as is similarly shown with respect to claim 1 above, Ray teaches a teaches a method within a digital acquisition device (camera 10) with an adjustable optical system (optical section 21) having an auto focusing mechanism, one or more processor readable storage devices (RAM 42 and ROM 44) having processor readable code embodied thereon, the processor readable code for programming one or more processors (CPU 30) to perform a method of perfecting the auto focus mechanism as part of the adjustable optical system as part of an image capture process using face detection in the image capture process to achieve desired image acquisition parameters comprising identifying a plurality of groups of pixels that correspond to an image of a face (when face detection is performed) within a digitally-captured image (framing image), and determining corresponding image attributes of the group of pixels, and perfecting the auto focus by performing auto focus on the plurality of groups of pixels that correspond to the image of the face. Further, Ray teaches that the performing of the auto focus on the plurality of groups is done by calculating a weighted average on the individual objects of the groups (specifically shown Col. 14, Lines 1-11). Ray also teaches that the identifying of face pixels is automatically performed by an image processing apparatus (CPU 30) which receives a relative value as to an estimated importance of the detected regions (referred to as the Component S, as is set forth in Col. 14, Line 12 – Col. 15, Line 6), and Ray also discloses that the estimated importance of the detected regions comprises at least one parameter including size of faces (e.g. the largest face, as set forth in Col. 7, Lines 42-44) and the location of faces within the captured image (as taught in Col. 7, Lines 40-42). Please also refer to Figs.1-3, Col. 4, Lines 15-66, Col. 6, Line 57 – Col. 7, Line 44, and Col. 11, Line 7 – Col. 14, Line 11.

In regard to **claim 26**, the limitations of claim 25 are set forth above, and the Ray reference further discloses that the method further comprising initially performing auto focus on the entire image capture (in image capture during framing mode), as taught in Col. 6, Line 57 – Col. 7, Line 22.

As for **claim 27**, again the limitations of claim 25 are taught above, and Ray teaches that the method for auto focusing the lens and the automatic adjusting automatically adjusts one or more properties of the adjustable optical system (optical section 21), as taught in Col. 7, Lines 36-44.

Considering **claim 36**, while Ray teaches the limitations of claim 25 above, Col. 7, Lines 58-62, and Col. 11, Lines 8-67 of the Ray reference teaches that the face pixels identifying step is automatically performed by the CPU 30 based on relative value as to a detection assurance (referred to as the "Component W").

As for **claim 37**, the limitations of claim 36 are taught above, and the Ray reference again teaches in Col. 7, Lines 58-62, and Col. 11, Lines 8-67 that the weighted average calculation is done based on the relative values as to the detection assurance.

Regarding **claim 39**, the limitations of claim 25 are taught above, and Ray teaches that the weighted average is calculated based on the relative values as to the estimated importance, as taught in Col. 14, Line 12 – Col. 15, Line 6.

Next, in regard to **claim 41**, as is similarly shown above with respect to claim 17, the Ray reference teaches a digital camera (10) having a lens system (21), one or more processor readable storage devices (42 and 44) having processor readable code readable thereon, the processor readable code for programming a processor (CPU 30) to perform a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, the method comprising the steps of identifying a group of pixels that correspond to a face within the digitally-detected image (via face detection from frame image), determining initial values of one or more parameters of pixels of the group of pixels, and automatically adjusting values of one or more parameters of the pixels of the group

of pixels based upon a comparison of the initial parameter with the desired parameter, as is taught in Figs.1-3, Col. 4, Lines 15-66, and Col. 6, Line 57 – Col. 7, Line 44. Further, Ray teaches that the face locations are automatically adjusted from an initial location to a desired location (i.e. the face detection algorithm detects all faces, but only uses the largest face as the desired location wherein to perform auto focus, as taught in Col. 7, Lines 23-44), and thus teaches that the one or more parameters of pixels comprise a location of the face within the digitally-detected image.

As for **claim 42**, the limitations of claim 41 are taught above, and Ray further discloses that the initial parameter and the desired parameter comprise an initial focus and a desired focus, respectively, which is taught in Col. 7, Lines 36-44.

Regarding **claim 43**, the limitations of claim 42 are set forth above, and the Ray reference teaches again in Col. 7, Lines 36-44 that in the method for auto focusing the lens, the automatic adjusting of one or more properties of the lens system (21).

Next, in regard to **claim 45**, as is similarly shown above with respect to claims 21 and 41, the Ray reference teaches a digital camera (10) having a lens system (21), one or more processor readable storage devices (42 and 44) having processor readable code readable thereon, the processor readable code for programming a processor (CPU 30) to perform a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, the method comprising the steps of identifying a group of pixels that correspond to a face within the digitally-detected image (via face detection from frame image), determining initial values of one or more parameters of pixels of the group of pixels, and automatically providing an option for adjusting values of one or more parameters of the pixels of the group of pixels based upon a comparison of the initial parameter with the desired parameter, as is taught in Figs.1-3, Col. 4, Lines 15-66, and Col. 6, Line 57 – Col. 7, Line 44. Further, Ray teaches that the face locations are automatically adjusted from an initial location to a desired location (i.e. the face detection algorithm detects all faces, but only uses the largest face as the desired location

wherein to perform auto focus, as taught in Col. 7, Lines 23-44), and thus teaches that the one or more parameters of pixels comprise a location of the face within the digitally-detected image.

As for **claim 46**, the limitations of claim 45 are taught above, and Ray further discloses that the initial parameter and the desired parameter comprise an initial focus and a desired focus, respectively, which is taught in Col. 7, Lines 36-44.

Regarding **claim 47**, the limitations of claim 46 are set forth above, and the Ray reference teaches again in Col. 7, Lines 36-44 that in the method for auto focusing the lens, the automatic adjusting of one or more properties of the lens system (21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-10 and 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ray et al. (U.S. Pat. 6,940,545) in view of Sannoh et al. (U.S. Pub. 203/0071908).

Next, regarding **claim 4**, the limitations of claim 1 are taught above, and while the Ray reference does teach that the camera performs perfecting of the auto focus via face detection in the captured image, Ray fails to specifically teach that the user manually activates the camera to perform such perfecting of auto focusing. However, the Sannoh reference discloses in Fig. 3 and Para. [0086] that the user manually selects the auto focusing mode and face detection operation mode for perfecting the auto focusing of the image. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the manual selection of the auto focus perfecting mode, as taught by Sannoh, with

the auto focus perfecting mode of Ray. One would have been motivated to do so because by allowing the user to manually select whether or not they want to perform the auto focus perfecting based on face detection, the user can manually turn off auto focus perfecting in instances where auto focus perfecting is not desired, such as quick-capture scenes, when pre-processing time must be kept to a minimum.

As for **claim 5**, again the limitations of claim 1 are taught above, and the Ray reference teaches a method within a digital acquisition device (camera 10) with an adjustable optical system (optical section 21) having an auto focusing mechanism, the method for perfecting the auto focus mechanism of the adjustable optical system as part of an image capture process using face detection in the image capture process to achieve desired image acquisition parameters comprising identifying a plurality of groups of pixels that correspond to an image of a face (when face detection is performed) within a digitally-captured image (framing image), and determining corresponding image attributes of the group of pixels, and perfecting the auto focus by performing auto focus on the plurality of groups of pixels that correspond to the image of the face. While the Ray reference does teach that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, Ray is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face. However, the Sannoh reference teaches that the user can manually remove one or more of the plurality of groups of pixels detected as faces in Figs. 6c-d and Para. [0105-0108]. Specifically, noting Para. [0107], Sannoh teaches that the user chooses, via operation section 108, a single ranging area among face-recognized positions, therefore inherently removing the other group of pixels as a detected face from which to perform setting adjustments (see also Fig. 6C). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the manual removal of one or more group of pixels detected as faces, as taught by Sannoh, with the auto focusing method of Ray, as it is advantageous to allow the user to choose which detected face is the object of interest and thus perform settings adjustments based on that face, as taught by Sannoh in Para. [0107].

In regard to **claim 6**, the limitations of claim 5 are taught above, and Sannoh further teaches that the manual removal of one or more of the detected faces is performed in response to false detection of the regions as one or more faces in Paras. [0105-0108].

Considering **claim 7**, again the limitations of claim 5 are taught above, and again Sannoh teaches in Paras. [0105-0108] that the removal of one or more of the detected faces is performed in response to a determination (by the user) to concentrate on less of the image faces than faces identified in the identifying.

Next, in regard to **claim 8**, the limitations of claim 5 are taught by Ray in view of Sannoh, and the Ray reference also teaches that the false detection of faces can be avoided by increasing a sensitivity level (i.e. using Component S detection, as set forth in Col. 14, Line 12 – Col. 15, Line 5) of the face identifying step, which is also taught in Col. 13, Lines 48-51.

Regarding **claim 9**, again the limitations of claim 5 are taught above, and the Ray reference teaches that the manual manipulation of the chosen faces is performed by an interactive visual method, as taught in Col. 7, Lines 12-21.

As for **claim 10**, the limitations of claim 5 are taught above, and the Ray reference also teaches that the manual manipulation of the chosen faces can performed using an image acquisition built-in display (touch sensitive screen and stylus, etc.), also taught in Col. 7, Lines 12-21.

Next, regarding **claim 28**, the limitations of claim 25 are taught above, and while the Ray reference does teach that the camera performs perfecting of the auto focus via face detection in the captured image, Ray fails to specifically teach that the user manually activates the camera to perform such perfecting of auto focusing. However, the Sannoh reference discloses in Fig. 3 and Para. [0086] that the user manually selects the auto focusing mode and face detection operation mode for perfecting the auto focusing of the image. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the manual selection of the auto focus perfecting mode, as

taught by Sannoh, with the auto focus perfecting mode of Ray. One would have been motivated to do so because by allowing the user to manually select whether or not they want to perform the auto focus perfecting based on face detection, the user can manually turn off auto focus perfecting in instances where auto focus perfecting is not desired, such as quick-capture scenes, when pre-processing time must be kept to a minimum.

As for **claim 29**, again the limitations of claim 25 are taught above, and the Ray reference teaches a method within a digital acquisition device (camera 10) with an adjustable optical system (optical section 21) having an auto focusing mechanism, the method for perfecting the auto focus mechanism of the adjustable optical system as part of an image capture process using face detection in the image capture process to achieve desired image acquisition parameters comprising identifying a plurality of groups of pixels that correspond to an image of a face (when face detection is performed) within a digitally-captured image (framing image), and determining corresponding image attributes of the group of pixels, and perfecting the auto focus by performing auto focus on the plurality of groups of pixels that correspond to the image of the face. While the Ray reference does teach that the method comprises manually adding an indication of another face within the image, as taught in Col. 5, Lines 6-62, and Col. 7, Lines 2-21, Ray is silent in regard to manually removing one or more of the plurality of groups of pixels that correspond to the image of a face. However, the Sannoh reference teaches that the user can manually remove one or more of the plurality of groups of pixels detected as faces in Figs. 6c-d and Para. [0105-0108]. Specifically, noting Para. [0107], Sannoh teaches that the user chooses, via operation section 108, a single ranging area among face-recognized positions, therefore inherently removing the other group of pixels as a detected face from which to perform setting adjustments (see also Fig. 6C). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the manual removal of one or more group of pixels detected as faces, as taught by Sannoh, with the auto focusing

method of Ray, as it is advantageous to allow the user to choose which detected face is the object of interest and thus perform settings adjustments based on that face, as taught by Sannoh in Para. [0107].

In regard to **claim 30**, the limitations of claim 29 are taught above, and Sannoh further teaches that the manual removal of one or more of the detected faces is performed in response to false detection of the regions as one or more faces in Paras. [0105-0108].

Considering **claim 31**, again the limitations of claim 29 are taught above, and again Sannoh teaches in Paras. [0105-0108] that the removal of one or more of the detected faces is performed in response to a determination (by the user) to concentrate on less of the image faces than faces identified in the identifying.

Next, in regard to **claim 32**, the limitations of claim 29 are taught by Ray in view of Sannoh, and the Ray reference also teaches that the false detection of faces can be avoided by increasing a sensitivity level (i.e. using Component S detection, as set forth in Col. 14, Line 12 – Col. 15, Line 5) of the face identifying, which is also taught in Col. 13, Lines 48-51.

Regarding **claim 33**, again the limitations of claim 29 are taught above, and the Ray reference teaches that the manual manipulation of the chosen faces is performed by an interactive visual method, as taught in Col. 7, Lines 12-21.

As for **claim 34**, the limitations of claim 29 are taught above, and the Ray reference also teaches that the manual manipulation of the chosen faces can performed using an image acquisition built-in display (touch sensitive screen and stylus, etc.), also taught in Col. 7, Lines 12-21.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory V. Madden whose telephone number is 571-272-8128. The examiner can normally be reached on Mon.-Fri. 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Madden
May 29, 2007

NGOC-YEN VU
SUPERVISORY PATENT EXAMINER